

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated August 4, 2009 has been received and its contents carefully reviewed.

Claim 9 has been amended. Claims 1-8 and 17-21 have been withdrawn from consideration as the result of the earlier restriction requirement. No new matter has been added. Claims 9-11, 13 and 14 remain pending for examination in this application. Applicant respectfully requests favorable reconsideration in view of the remarks presented herein below.

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Maeda et al.(US 2001/0029054) in view of Kim et al.(US 6,091,466); further in view of Sai et al.(JP 2000-165002). Claims 10-11 and 13-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Maeda et al.(US 2001/0029054) in view of Kim et al.(US 6,091,466) and Sai et al.(JP 2000-165002); further in view of Ishikura et al.(US 6,219,125). Applicant respectfully traverses the rejections as being based upon references that neither teach nor suggest the combination of features recited by independent claim 9, as amended, and hence dependent claims 10, 11, 13 and 14.

With respect to independent claim 9, as amended, Applicant respectfully submits that none of Maeda et al., Kim et al., Sai et al. and Ishikura et al., individually or in combination, teaches or suggests the claimed combination including at least features of “forming a first copper compound layer including nitrogen and directly on a substrate; forming a first copper layer directly on the first copper compound layer; forming a second copper compound layer including nitrogen and directly on the ohmic contact layer; and forming a second copper layer on the

second copper compound layer directly on the ohmic contact layer” as recited by independent claim 9.

On page 2 of the Action, the Examiner alleges “Maeda et al.(figure 6) discloses the first layers are copper compound layers (1a, 6a; see at least paragraphs 0046 and 0080) by stating that the metal can be one metal selected from the group consisting essentially of Al, Ta, W, Cu and Ag, *or an alloy comprising at least one of these metals as a main component*” and “Maeda et al.(figure 6) discloses the second layers are copper layer (1b, 6b; see at least paragraphs 0046 and 0080) by stating that the metal can be one metal selected *from the group consisting essentially of Al, Ta, W, Cu and Ag*, or a nitride of an alloy comprising at least one of these metals as a main component.” Applicant respectfully disagree. Maeda et al. evidently discloses “The metal of the first layer 1a, 2a and 12a can be *one metal* selected from the group consisting essentially of Al, Ta, W, Cu and Ag, or *an alloy* comprising at least one of these metals as a main component. The metal of the second layer 1b, 2b and 12b to which nitrogen atoms are added can be a nitride of one metal selected from the group consisting essentially of Al, Ta, W, Cu and Ag, or a nitride of an alloy comprising at least one of these metals as a main component” in paragraph 0046. In addition, Maeda et al. evidently discloses “The metal of the first layer 6a, 7a and 16a can be *one metal* selected from the group consisting of Al, Ta, W, Cu and Ag, or *an alloy* comprising at least one of these metals as a main component. The second layer 6b, 7b and 17b comprising the metal to which nitrogen atoms are added can be a nitride of one metal selected from the group consisting of Al, Ta, W, Cu and Ag, or a nitride of an alloy comprising at least one of these metals as a main component” in paragraph 0081. That is, the first layers (1a, 6a) of Maeda et al. are a metal or an alloy comprising at least one metal, and the second layers (1b, 6b) are a *nitride* of a metal or a *nitride* of an alloy comprising at least one metal. In other words, the first layers

(1a, 6a) of Maeda et al. do not include nitrogen, and the second layers (1b, 6b) of Maeda et al. do include nitrogen. Accordingly, Maeda et al. does not disclose the features of “forming a first copper compound layer including nitrogen and directly on a substrate; forming a first copper layer directly on the first copper compound layer; forming a second copper compound layer including nitrogen and directly on the ohmic contact layer; and forming a second copper layer on the second copper compound layer directly on the ohmic contact layer” recited in independent claim 9, as amended. Moreover, Applicant respectfully submits that Kim et al., Sai et al. and Ishikura et al., individually or in combination, cannot remedy the deficiencies of Maeda et al.

Therefore, none of Maeda et al., Kim et al., Sai et al. and Ishikura et al., individually or in combination, teaches or suggests the claimed combination including at least features of “forming a first copper compound layer including nitrogen and directly on a substrate; forming a first copper layer directly on the first copper compound layer; forming a second copper compound layer including nitrogen and directly on the ohmic contact layer; and forming a second copper layer on the second copper compound layer directly on the ohmic contact layer” as recited by independent claim 9, as amended.

Accordingly, claim 9 and its dependent claims 10, 11, 13 and 14 are allowable over the cited references.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps

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necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

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